

## CLAIMS

1. A shark cartilage extract with anti-parathyroid hypertensive factor (PHF) activity.
2. The shark cartilage extract with anti-PHF activity according to claim 1, wherein the shark cartilage extract is produced by the following steps:
  - extracting cleaned, dried, ground shark cartilage with H<sub>2</sub>O at a temperature between 4-120°C for 2-4 hours,
  - cooling the resulting suspension to between 40-60°C,
  - centrifuging the cooled suspension at between 5200 to 5700 rpm to separate the suspension into supernatant 1 and pellet,
  - holding the supernatant 1 in a cooling tank at 4-8°C,
  - extracting the pellet a second time with H<sub>2</sub>O at a temperature between 4-120°C for 2-4 hours,
  - cooling the resulting suspension to between 40-60°C,
  - centrifuging the cooled suspension at between 5200 to 5700 rpm to separate the suspension into supernatant 2 and pellet,
  - pooling supernatant 1 with supernatant 2, and
  - spray drying the pooled supernatants to obtain the shark cartilage extract.
3. A method for treating hypertension comprising administering to a patient in need of such treatment, an anti-hypertensive effective amount of shark cartilage extract.
4. The method according to claim 3, wherein said amount is 0.1-20 mg/kg body weight.
5. A method for treating a disease related to excessive PHF comprising administering to a patient in need of such treatment, an amount of shark cartilage extract effective to treat said disease.
6. A method for treating a disease related to intracellular calcium elevation comprising administering to a patient in need of such treatment, an amount of shark cartilage extract effective to treat said disease.
7. A pharmaceutical composition comprising shark cartilage extract

with anti-parathyroid hypertensive factor activity and a pharmaceutically acceptable carrier.

8. A pharmaceutical composition comprising shark cartilage extract with anti-parathyroid hypertensive factor activity, an antihypertensive substance and a pharmaceutically effective carrier.

9. A method for counteracting the activity of parathyroid hypertensive factor, comprising administering an effective amount of shark cartilage extract with anti-parathyroid hypertensive factor activity.

10. A method for producing a purified shark cartilage extract with anti-parathyroid hypertensive factor activity, comprising the steps of:

extracting cleaned, dried, ground shark cartilage with  $H_2O$  at a temperature between 4-120°C for 2-4 hours,

cooling the resulting suspension to between 40-60°C,

centrifuging the cooled suspension at between 5200-5700 rpm to separate the suspension into supernatant 1 and pellet,

holding the supernatant 1 in a cooling tank at 4-8°C,

extracting the pellet a second time with  $H_2O$  at a temperature between 4-120°C for 2-4 hours,

cooling the resulting suspension to between 40-60°C,

centrifuging the cooled suspension at between 5200 to 5700 rpm to separate the suspension into supernatant 2 and pellet,

pooling supernatant 1 with supernatant 2, and

spray drying the pooled supernatants to obtain the shark cartilage extract.

11. The method according to claim 10, wherein said extracting steps are conducted at 95°C for 2 hours.

12. The method according to claim 10, wherein a decanter centrifuge is used in said centrifuging steps.

13. The method according to claim 10, further comprising concentrating the pooled supernatants until a solids content of between 8 - 10% is reached.

14. A method for inhibiting vascular smooth muscle cell proliferation, comprising administering to a patient in need of such treatment, an amount of the composition according to claim 7 effective to inhibit vascular smooth muscle cell proliferation.

15. The extract according to claim 2, wherein said extract is composed of 5-30% protein, 15-80% mucopolysaccharides and 1-20% Chondroitin Sulfate C.